

WHAT IS CLAIMED IS:

1. A TDMA communications apparatus for carrying out communication using TDMA technology in which a frame is divided into a plurality of slots, a slot being treated as a unit of data transmission, and said TDMA communications apparatus performs TDMA communication while reserving slots for own transmission, said TDMA communications apparatus comprising:

conflict avoidance means for avoiding slot allocation conflicts with other stations by transmitting a message indicating that own station will re-reserve another slot for own transmission within a predefined period upon detecting that a slot reserved for own use has been reserved by another station as well.

2. The TDMA communications apparatus according to claim 1, said TDMA communications apparatus having a mode in which a slot at the same location as a current slot is reserved in each of succeeding frames, wherein the conflict avoidance means transmits a message indicating that the own station will re-reserve another slot for own transmission within the predefined period in a next frame upon detecting that a slot reserved for own use in the next frame has been reserved by another station as well.

3. The TDMA communications apparatus according to claim

1, said TDMA communications apparatus having a mode in which a slot at the same location as a current slot is reserved in each of succeeding frames, wherein the conflict avoidance means transmits a message indicating that the own station will re-reserve another slot for own transmission within the predefined period in a current frame upon detecting that a next slot reserved for own use in the current frame has been reserved by another station as well.

4. The TDMA communications apparatus according to one of claims 1 to 3, wherein the predefined period is set based on the speed of a mobile unit on which said TDMA communications apparatus is installed.

5. A TDMA communications apparatus for carrying out communication using TDMA technology in which a frame is divided into a plurality of slots, a slot being treated as a unit of data transmission, and said TDMA communications apparatus performs TDMA communication while reserving slots for own transmission, said TDMA communications apparatus comprising:

means for evaluating the level of a signal received in each slot a plurality of times and judging a slot in which the level of the received signal is less than a threshold a specific number of times as a free slot which may be reserved for own transmission without causing a conflict with other stations.

6. A TDMA communications apparatus for carrying out communication using TDMA technology in which a frame is divided into a plurality of slots, a slot being treated as a unit of data transmission, and said TDMA communications apparatus performs TDMA communication while reserving slots for own transmission, said TDMA communications apparatus comprising:

a violation information memory for storing violations of individual protocols, such as slot allocation-related violations and transmission-related violations of individual stations, in a manner that allows a comparison between the content of a slot allocation table and/or database of other stations storing slot allocation status of each station and received messages.

7. A TDMA communications apparatus for carrying out communication using TDMA technology in which a frame is divided into a plurality of slots, a slot being treated as a unit of data transmission, and said TDMA communications apparatus performs TDMA communication while reserving slots for own transmission, said TDMA communications apparatus comprising:

means for recovering a report rate by allocating a new slot within a defined next selection interval(SI) using ITDMA protocol when the communication apparatus detects that the own slot within the next SI has been erased or overridden by other

stations or is not found due to a traffic situation.